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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/812,048	03/29/2004	Thomas L. Bunn	038190/275896	1436

826 7590 07/19/2005

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EXAMINER
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LEUNG, JENNIFER A

ART UNIT	PAPER NUMBER
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1764

DATE MAILED: 07/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/812,048

Applicant(s)

BUNN ET AL

Examiner

Jennifer A. Leung

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 15 and 16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 15 and 16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |  |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date: ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/29/2004</u> | 6) <input type="checkbox"/> Other: ____  |

**DETAILED ACTION*****Specification***

1. The disclosure is objected to because of the following informalities:

The "CROSS REFERENCE TO RELATED APPLICATION" should be updated to read,

--The present application is a divisional of U.S. Patent Application No. 10/151,653, filed on May 20, 2002, now U.S. Patent No. 6,763,051, the contents of which are incorporated in their entirety herein--.

Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 15 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Shigeyasu et al. (US 4,062,654).

Regarding claim 15, Shigeyasu et al. (FIG. 1; column 3, lines 28-52) discloses a reactor comprising:

a reactor vessel 1;

a first inlet (i.e., at inlet conduit 4) in the upper region of the vessel 1;

a second inlet (i.e., at inlet conduit 5) in the upper region of the vessel 1;

a third inlet (i.e., at inlet conduit 11) in the lower region of the vessel 1; and

an outlet (i.e., at outlet conduit 12) in the lower region of the vessel 1.

Regarding claim 16, Shigeyasu et al. further discloses a fourth inlet (i.e., at inlet conduit

6) in the upper region of the vessel 1.

Instant claims 15 and 16 structurally read on the apparatus of Shigeyasu et al.

3. Claim 15 is rejected under 35 U.S.C. 102(b) as being anticipated by Lohrberg et al. (EP 0 094 718).

Lohrberg et al. (FIG. 2) discloses a reactor comprising:

- a reactor vessel 1;
- a first inlet 5 in the upper region of the vessel 1;
- a second inlet 6 in the upper region of the vessel 1;
- a third inlet 8 in the lower region of the vessel 1; and
- an outlet 10 in the lower region of the vessel 1.

Instant claim 15 structurally reads on the apparatus of Lohrberg et al.

4. Claim 15 is rejected under 35 U.S.C. 102(b) as being anticipated by Iwase et al. (US 3,743,707).

Iwase et al. (FIG. 6A; column 6, line 15 to column 7, line 50) discloses a reactor comprising:

- a reactor vessel 610;
- a first inlet 615 in the upper region of the vessel 610;
- a second inlet 616 in the upper region of the vessel 610;
- a third inlet 633 in the lower region of the vessel 610; and
- an outlet 619 in the lower region of the vessel 610.

Instant claim 15 structurally reads on the apparatus of Iwase et al.

5. Claim 15 is rejected under 35 U.S.C. 102(b) as being anticipated by McDermott et al. (US 4,246,252).

McDermott et al. (FIG.; column 3, line 5 to column 4, line 4) discloses a reactor comprising:

a reactor vessel (i.e., elongated glass tube **12**);  
a first inlet (i.e., inlet means **20**) in the upper region of the vessel **12**;  
a second inlet (i.e., inlet means **22**) in the upper region of the vessel **12**;  
a third inlet (i.e., end of bubbler **18**) in the lower region of the vessel **12**; and  
an outlet (i.e., constricted end **14**) in the lower region of the vessel **12**.

Instant claim 15 structurally reads on the apparatus of McDermott et al.

6. Claims 15 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Fujii et al. (JP 63-245979).

Regarding claim 15, Fujii et al. (Figure 1; Abstract) discloses a reactor comprising:

a reactor vessel (i.e., oxygen generator **1**);  
a first inlet (i.e., via inlet **7** with valve **14**, to premixer **11**) in the upper region of the vessel **1** (i.e., the opening as defined by the outlet end of the premixer **11** is in the upper region of the vessel **1**);

a second inlet (i.e., via inlet **8** with valve **15**, to premixer **11**) in the upper region of the vessel **1** (i.e., the opening as defined by the outlet end of the premixer **11** is in the upper region of the vessel **1**);

a third inlet (i.e., via chlorine injector **20**) in the lower region of the vessel **1** (i.e., the opening as defined by the outlet end of the chlorine injector **20** is in the lower region of the vessel); and

an outlet (i.e., communicating with pump **12**) in the lower region of the vessel **1**.

Regarding claim 16, Fujii et al. (Figure 1; Abstract) further discloses a fourth inlet (i.e.,

via inlet 10 with valve 16, to mixer 11) in the upper region of the vessel 1 (i.e., the opening as defined by the outlet end of the premixer 11 is in the upper region of the vessel 1).


Instant claims 15 and 16 structurally read on the apparatus of Fujii et al.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer A. Leung whose telephone number is (571) 272-1449. The examiner can normally be reached on 8:30 am - 5:30 pm M-F, every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn A. Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jennifer A. Leung  
July 15, 2005 

  
**HIEN TRAN  
PRIMARY EXAMINER**